

What is claimed is:

1. A method for building up backup master information, comprising the steps of:

(a) receiving connection information from at least one of a plurality of slaves in a network;

5 (b) determining a priority of said at least one of the plurality of slaves to be used as a backup master, when a network master disappears, according to the received connection information; and

(c) announcing the determined priority information of backup master to at least another one of the plurality of slaves.

2. The method of claim 1, wherein the steps (a) through (c) are repeated in a predetermined cycle.

3. The method of claim 1, wherein the received connection information includes received signal strength indication (RSSI) and/or link quality information.

4. The method of claim 3, wherein, in the step (b), if said at least one of the plurality of slaves has a higher RSSI than another one of the plurality of slaves, said at least one of the plurality of slaves is given a higher priority, which is used to choose a new network master.

5. The method of claim 3, wherein, in the step (b), if said at least one of the plurality of slaves has a higher link quality value than another one of the plurality of slaves, said at least one of the plurality of slaves is given a higher priority, which is used to choose a new network master.

6. The method of claim 1, wherein the network is a Personal Ad-hoc Network.

7. The method of claim 1, wherein in the step (c), the determined priority of the backup master is announced to the at least another one of the plurality of slaves, through a broadcasting channel.

8. A method for designating a new master of a network when a preexisting network master disappears, the method comprising the steps of:

(a) determining whether the preexisting network master has disappeared;

5 (b) if the preexisting network master has disappeared, determining a rank, which is used for choosing a new network master and is received before the disappearance of the preexisting network master; and

(c) changing to a role as the new network master if the rank is highest of any one of a plurality of slaves.

9. The method of claim 8, after the step (c), further comprising the step (d) of performing inquiry scan and page scan.

10. The method of claim 8, after step (d), further comprising the steps of:

(e) determining whether a new device attempts to establish a connection through the network;

5 (f) accepting a request of the new device for connection, requesting the new device to change to a role as a slave, and remaining as the new network master;

(g) storing information of the new device, and announcing the information of the new network master and each of the plurality of slaves
10 linked throughout the network, to each of the plurality of slaves linked throughout the network; and

(h) checking for a change of a master mode if there is no connection request from the new device in step (e), returning to the step (d) when no change to the master mode is determined, and terminating the master mode
15 when a change to the master mode is determined.

11. The method of claim 10, wherein, in the step (h), the change of the master mode is determined when a role of a device serving as the preexisting network master is changed to a role as one of the plurality of slaves, by a user, when a Bluetooth function of the preexisting network master
5 is switched off, or when power of the preexisting network master is turned off.

12. The method of claim 8, wherein step (a) comprises the sub-steps of:

- (a1) checking a connection status with the preexisting network master;
- (a2) attempting to reconnect with the preexisting network master if
- 5 disconnection is detected in sub-step (a1);
- (a3) checking whether reconnection with the preexisting network master is successful, and returning to the sub-step (a1) if the reconnection with the preexisting network master is successful; and
- (a4) determining whether the preexisting network master has
- 10 disappeared, if reconnection with the preexisting network master is not established in sub-step (a3), and informing a host of the event as a “Disconnection Complete Event”.

13. The method of claim 12, wherein the sub-step (a1) is repeated in a predetermined cycle while the connection with the preexisting network master remains.

14. A method for establishing a connection between a new master and a remaining plurality of slaves of a network when a preexisting network master disappears, the method comprising the steps of:

- (a) checking whether the preexisting network master has disappeared;
- 5 (b) checking backup master rank information, when it is determined that the preexisting network master has disappeared in the step (a);
- (c) attempting to establish a connection with the new network master when it is determined that one of the remaining plurality of slaves does not

have the highest priority, according to the backup master rank information;
10 and

(d) remaining as one of the remaining plurality of slaves if a
connection with the new network master is established in the step (c).